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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/086,996	02/28/2002	Dale R. Langner	1528.027US1	6341
21186	7590	03/10/2004		
SCHWEGMAN, LUNDBERG, WOESSNER & KLUTH, P.A. P.O. BOX 2938 MINNEAPOLIS, MN 55402			EXAMINER TRIEU, VAN THANH	
			ART UNIT	PAPER NUMBER
			2636	

DATE MAILED: 03/10/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/086,996

Applicant(s)

LANGNER ET AL.

Examiner

Van T Trieu

Art Unit

2632

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 February 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-27 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

1. Claims 1-4, 6, 7, 16, 17 and 19-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over **May** [US 6,614,419] in view of **Steiner et al** [US 5,528,248].

Regarding claim 1, the claimed display (avionic multifunction display 10 having a display screen 22 and a plurality of display screen regions that are activated by bezel soft key 42-50 for displaying of graphics and text data, see Figs. 1, 2 and 5-8, col. 2, lines 52-61, col. 3, lines 44-56, col. 6, lines 48-63, col. 8, lines 66, 67, col. 9, line 1, col. 11, lines 43-67, col. 16, lines 7-67 and col. 17, lines 1-67); and the label display region (the plurality

of label display regions 52-60 or 82-90 are adjacent to one of the soft key 42-50, see Figs. 1A and 1B); and the plurality of views are selectable within one or more of the numbers of displayable regions (the multifunction avionics display 10' provides multiple functions in various associated operation modes, which are controlled by selectable switches 42-50 or 42'-50' to display on the different regions, see Figs. 4-8, col. 12, lines 50-67, col. 13, lines 1-13, col. 16, lines 7-67 and col. 17, lines 1-67); but **May** fails to disclose each label associated with one or the soft keys can be modified or configured within the label display region for a particular one of the soft keys. However, **May** teaches that a SUL display legend labels 52-60 is associated with a respective one of each soft keys 42-50. Each of the labels 52-60 provides a legend indicating the function of the associated control soft key relative to the current selected operation mode of the multifunctional display 10. Alternatively, when activated exclusive of the SUL labels, the on-screen soft labels provide legend indicating the function of the associated control soft keys relative to another different operation mode of the multifunctional display 10, see Fig. 1, col. 5, lines 44-60 and col. 6, lines 48-63. **Steiner et al** suggests that a personal digital location assistant PDA 30 can be use to airplane navigation applications to indicate latitude and longitude, the route lines 176 and 166 show a current, desired flight path and a next desired flight path, respectively for the aircraft, the waypoint 178 and airport 174. The PDA 30 includes touch-screen/soft keys and press/button keys. An advantage of the touch-screen is that a label or a corresponding function of the touch-screen may be changed/modified by request from the user any number of times without changing electrical or mechanical hardware, see Figs. 1-3, col. 9, lines 62-67

and col. 10, lines 1-30. Therefore, it would have been obvious to one skill in the art at the time the invention was made to substitute the touch-screen/soft keys for changing or modifying label of **Steiner et al** for the soft keys of **May** since the on-screen soft labels provide different operation mode of the multifunctional display. Furthermore, **May** suggests that the advantages of the soft labeling can provide the variable functionality needed for introducing upgrades and additional features or functions into a device, see col. 1, lines 52-54 and col. 2, lines 11-17.

Regarding claim 2, all the claimed subject matters are discussed between **May** and **Steiner et al** in respect to claim 1 above, wherein the multifunction display 10 or 10' allows one data information overlaid the other data regions, see col. 17, lines 49-52.

Regarding claim 3, all the claimed subject matters are discussed between **May** and **Steiner et al** in respect to claim 2 above, and including one or more of the dynamic images including weather condition data, StormScope information, topography, navigation and communication, see col. 16, lines 7-67 and col. 17, lines 1-67.

Regarding claim 4, all the claimed subject matters are discussed between **May** and **Steiner et al** in respect to claim 1 above, see Figs. 1-8.

Regarding claim 6, all the claimed subject matters are discussed between **May** and **Steiner et al** in respect to claim 1 above, see Figs. 1-8.

Regarding claim 7, all the claimed subject matters are discussed between **May** and **Steiner et al** in respect to claim 1 above, wherein the display screen 22 for displaying text message data, see Figs. 5-8.

Regarding claim 16, all the claimed subject matters are discussed between **May** and **Steiner et al** in respect to claims 1 and 2 above.

Regarding claim 17, all the claimed subject matters are discussed between **May** and **Steiner et al** in respect to claims 3 and 16 above.

Regarding claim 19, all the claimed subject matters are discussed between **May** and **Steiner et al** in respect to claim 16 above, see Figs. 4-8.

Regarding claim 20, all the claimed subject matters are discussed between **May** and **Steiner et al** in respect to claim 16 above.

Regarding claim 21, all the claimed subject matters are discussed between **May** and **Steiner et al** in respect to claims 7 and 16 above.

Regarding claim 22, all the claimed subject matters are discussed between **May** and **Steiner et al** in respect to claims 1 and 2 above.

Regarding claim 23, all the claimed subject matters are discussed between **May** and **Steiner et al** in respect to claims 3 and 22 above.

Regarding claim 24, all the claimed subject matters are discussed between **May** and **Steiner et al** in respect to claim 22 above.

Regarding claim 25, all the claimed subject matters are discussed between **May** and **Steiner et al** in respect to claim 22 above, see Figs. 4-8.

Regarding claim 26, all the claimed subject matters are discussed between **May** and **Steiner et al** in respect to claim 22 above, see Figs. 4-8.

Regarding claim 27, all the claimed subject matters are discussed between **May** and **Steiner et al** in respect to claim 22 above, see Figs. 4-8.

2. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over **May** and **Steiner et al** and further in view of **Walker** [US 6,279,017].

Regarding claim 5, **May** fails to disclose the displayable regions are pop-up windows. However, **May** teaches that the multifunction display 10 includes a plurality of display regions that are selectively activated by bezel soft keys 42-50 for displaying of selected flight modes to display in both graphic and text data information, see Figs. 1-8, col. 2,

lines 52-61, col. 3, lines 44-56, col. 6, lines 48-63, col. 8, lines 66, 67, col. 9, line 1, col. 11, lines 43-67, col. 16, lines 7-67 and col. 17, lines 1-67. **Walker** suggests that a text enhancement method and apparatus for improved human reading comprises a text display for displaying of selected tagged word. The tagged word displays a pop-up window containing the definition or drawing, for use as aircraft heads-up display, see col. 1, lines 18-20 and col. 9, lines 54-61. Therefore, It would have been obvious to one of ordinary skill in the art at the time the inventions was made to substitute the pop-up window of **Walker** for the display screed of **May** and **Steiner et al** since the text messages are pop-up whenever it has been selected by a pilot, and to provide additional messages or helps to verify that message to the pilot, which prevents of miss reading of data information.

3. Claims 8-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over **May** and **Steiner et al** and further in view of **Adams et al** [US 6,314,343].

Regarding claim 8, **May** fails to disclose the sensors operable coupled to the controls and the display activation buttons, wherein the sensors are proximately located to rear sides of the bezel and the display. However, **May** teaches that the multifunction display 10 or 10' with a display screen 22 is for displaying a plurality of different flight mode selections and including weather condition data, StormScope information, topography, navigation and communication, see Figs. 4-8, col. 16, lines 7-67 and col. 17, lines 1-67. **Adam et al** suggests that the visual display screen 4 with a plurality of display fields 1-16, 19 and 20 are adapted to display messages and selected data information to a pilot,

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including the aircraft sensors 34, see Figs. 1-4, col. 1, lines 55-67, col. 2, lines 30-36, col. 4, lines 10-67 and col. 5, lines 1-43. Therefore, it would have been obvious to one of skill in the art at the time the invention was made to substitute the aircraft sensors of **Adam et al** for weather, storm and navigation system of **May** and **Steiner et al** in order to sensing or detecting of weather conditions, storm status for displaying and alarming of the actual environment within the flight area.

Regarding claim 9, all the claimed subject matters are discussed between **May** and **Steiner et al** and **Adams et al** in respect to claim 8 above.

Regarding claim 10, all the claimed subject matters are discussed between **May** and **Steiner et al** and **Adams et al** in respect to claim 8 above, see Figs. 4-8.

Regarding claim 11, all the claimed subject matters are discussed between **May** and **Steiner et al** and **Adams et al** in respect to claims 2 and 8 above.

Regarding claim 12, all the claimed subject matters are discussed between **May** and **Steiner et al** and **Adams et al** in respect to claims 3 and 11 above.

Regarding claim 13, all the claimed subject matters are discussed between **May** and **Steiner et al** and **Adams et al** in respect to claim 8 above, see Figs. 4-8, col. 15, lines 14-20 and col. 16, lines 7-23.

Regarding claim 14, all the claimed subject matters are discussed between **May** and **Steiner et al** and **Adams et al** in respect to claim 8 above, see Figs. 4-8.

4. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over **May** and **Steiner et al** and **Adams et al** and further in view of **Robinson et al** [US 4,651,282].

Regarding claim 15, **May** fails to disclose the audio panel including one or more audio controls operable to adjust the quality and volume associated with audio data.

However, **May** teaches that the avionic multifunction display 10 having a display screen 22 with a plurality of display regions for visually displaying one or more data and warning messages including weather condition data, StormScope information, topography, navigation, terrain and communication, see Figs. 4-8, col. 16, lines 7-67 and col. 17, lines 1-67. **Robinson et al** suggest that an airborne navigation and communication system includes a communication transceiver with a control 18 and displays 28 and 30. The communication system includes an audio squelch circuitry and the multifunction mode selection switch comprises a push/button switch 32 for selectively enabling and disabling the audio squelch circuitry. A potentiometer 313 is for adjusting the volume of a transmission being monitored through the receiver head-set, see Figs. 1, 2 and 4, col. 1, lines 61-67, col. 2, lines 1-11, col. 4, lines 50-63, col. 11, lines 39-63 and col. 15, lines 3-21. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the audio circuitry with adjustable volume of **Robinson et al** to the visual display of **May** and

Steiner et al and **Adams et al** because combination of both audio and visual data information for use in the aircraft cockpit is very well known in the art to give the pilot a full accessible of command and control the operation functions of the aircraft and of the flight situations, which increases the flight safety.

5. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over **May** and **Steiner et al** and further in view of **Briffe et al** [US 6,057,786].

Regarding claim 18, **May** fails to disclose the flight data are represented in a three-dimensional format on the display. However, **May** teaches that the avionic multifunction display 10 having a two-dimensional display screen 22 see Figs. 1-8. **Briffe et al** suggests that an aircraft display and control system comprising a plurality of display devices 16, 18, 20, 22 and heads-up display 32 for displaying of flight information and geographic data. The system includes a plurality of soft key buttons 82a-82f and labels and/or trackballs 44 and 48. The heads-up display 32 receives indicator signals and using the indicator signals to generate a conformal indicator image superimposed on a pilot's view through the cockpit windshield, including selection of a weather radar image to be superimposed/overlaid on the situation display, see Fig. 1-3 and 5, col. 2, lines 62-67, col. 3, lines 1-3, col. 6, lines 50-67 and col. 9, lines 1-10. an aircraft display and control system comprising a plurality of display devices 16, 18, 20, 22 and heads-up display 32 for displaying of flight information and geographic data in a three-dimensional image of the next waypoint in the flight plan, see Figs. 1-3, col. 2, lines 62-67, col. 3, lines 1-3 and col. 10, lines 32-41. Therefore, it would have been obvious to one of

ordinary skill in the art at the time the invention was made to substitute the heads-up display of **Briffe et al** for the display screen of **May** and **Steiner et al** in order to provide three-dimensional format which gives the pilot comfortable and easily identify of the data information of the flight.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

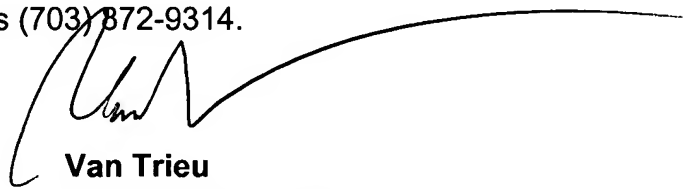
Sample discloses a navcomm device for an aircraft including soft labels and keys for indicating operation functions and positions of the aircraft. [US 6,473,675]

Meinzer et al discloses a medical display device allows user to select a label soft key, and the labels will be changed/modified. [US 5,782,805]

7. Any inquiry concerning this communication or earlier communications from examiner should be directed to primary examiner **Van Trieu** whose telephone number is (703) 308-5220. The examiner can normally be reached on Mon-Fri from 7:00 AM to 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. **Jeffery Hofsass** can be reached on (703) 305-4717.

The office facsimile number is (703) 372-9314.



Van Trieu
Primary Examiner
Date: 3/4/04